

Improvements relating to refractory dolomitic masses

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Abstract of GB690859

A refractory composition is prepared by mixing dead burnt dolomite with powdered pitch, and then adding a lubricant which is liquid at normal temperature. Preferably the pitch comprises bituminous asphalt and/or coal tar pitch. and the lubricants specified are kerosene, petrol, turpentine, white spirit, benzine and creosote, singly or in combination. Preferred proportions of pitch and lubricant are 2 to 5 per cent. by weight.

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PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements relating to Refractory Dolomitic Masses

I, EDWARD JAMES CRAWLEY, a British subject, of "Whitefriars," Blakeney, Holt, Norfolk, do hereby declare the invention, for which I pray that a patent
5 may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

In the production of ceramic masses of
10 different kinds, for example ramming masses and masses for brick manufacture, different mixtures of pitch and tars have, in certain cases, been used as a binder for the ceramic material. The subsequent
15 firing of a mass, particularly a dolomitic mass, having this kind of binder causes the mass to have a relatively high porosity and is accompanied by expansion or swelling and distortion of the mass.
20 The present invention relates to the production of dolomitic ramming masses and bricks and has for its principal object to avoid the above-mentioned disadvantages. Another object of the invention is
25 to facilitate the ramming of dolomitic linings in furnaces and the moulding of dolomitic bricks.

These objects are achieved in accordance with the present invention by mixing
30 dead burnt dolomite of a suitable grain-size, common in the refractory industry, with a pitch in the form of a powder, and with a lubricating substance that is liquid at normal atmospheric temperature. It is preferred to mix the dead
35 burnt dolomite with the pitch and then to add the lubricating liquid to this mixture and mix it therewith before the composition is rammed or moulded.

The pitch used is preferably relatively high in carbon and as a consequence low in volatiles, and is that commonly known as hard pitch. The pitch should be bituminous asphalt or petroleum pitch, and/
40 or coal-tar pitch.

The lubricating substance, which of course must not wholly dissolve the

pitch, is preferably a normally liquid hydrocarbon or mixture of liquid hydrocarbons, for example kerosene, petrol, 50 turpentine, white spirit and benzine, but other liquids may be employed, for example creosote. An essential feature of the lubricating substance is that it should be liquid at normal atmospheric temperature and it preferably has a slight dissolving action at such temperature on the surfaces of the pitch grains used, thus making the said surfaces oleaginous whereby the composition is more easily
60 consolidated on ramming or moulding.

The pitch and the lubricating substance are included in the composition preferably in amounts each ranging between 2% and 5% by weight. 65

The following examples are given to illustrate the invention.

EXAMPLE 1.

MANUFACTURE OF DOLOMITE RAMMING MASS.

A mass consisting of dead burnt dolomite of suitable grain-size is mixed with 3% powdered pitch and 3% creosote, after which the mass is directly ready for ramming. 70

EXAMPLE 2.

MANUFACTURE OF DOLOMITE BRICKS.

Dead burnt dolomite of suitable grain-size is mixed with 3% powdered pitch and 3% kerosene, after which the bricks 80 are formed and heated at such temperature that the kerosene is partly or wholly driven off and the bricks are bound by residual carbon from the pitch.

What I claim is:— 85

1. A refractory dolomitic mass intended for ramming or the manufacture of bricks, prepared by mixing dead burnt dolomite, a pitch in the form of a powder, and a lubricating substance that is liquid 90 at normal atmospheric temperature.

2. A refractory dolomitic mass according to Claim 1, wherein the lubricating substance has a slight dissolving action

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on the pitch at said temperature.

3. A refractory dolomitic mass according to Claim 1 or to Claim 2, wherein the pitch comprises bituminous asphalt and/or coal-tar pitch.

4. A refractory dolomitic mass according to any of Claims 1 to 3, wherein the lubricating substance is a hydrocarbon or mixture of hydrocarbons.

5. A refractory dolomitic mass as claimed in any of Claims 1 to 4, wherein the pitch and the lubricating substance are each present in the mass in an amount from 2 to 5% by weight.

6. The method of making a refractory dolomitic mass which comprises mixing

dead burnt dolomite with a pitch in the form of a powder and then incorporating in the mixture a lubricating substance which is liquid at normal atmospheric temperature and which preferably has a slight dissolving action on the pitch at such temperature.

7. A refractory dolomitic mass substantially as set forth in each of the examples 25 hereinbefore given.

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